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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,383

11/19/2003

Thomas Joel Massingill

P2112

9726

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11/03/2006

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EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/718,383

Applicant(s)

MASSINGILL, THOMAS JOEL

Examiner

Alexander O. Williams

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-51 is/are pending in the application.
- 4a) Of the above claim(s) 39-45 and 49-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-38 and 46-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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Serial Number: 10/718383  
Filing Date: 11/19/2003;

Applicant: Massingill

Examiner: Alexander Williams

This application claims the benefit of a provisional patent application # 60/460347, filed 4/4/2003.

Applicant's RCE/Amendment Response D filed 9/6/06 has been acknowledged.

Applicant's election of species of figure 3 (claims 1 and 4 to 18), filed 9/26/05, has been acknowledged.

Claims 1-31 have been cancelled.

New claims 32-51 have been added.

Newly submitted claims 39-45 and 49-51 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: species of packaged solder ball device claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 39-45 and 49-51 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 32-38 and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Mess et al. (U.S. Patent # 6,512,302 B2).

32. For example, in claim 32 and similar claim 46, Mess et al. (figures 1 to 9) specifically figure 9 show a semiconductor package, comprising: a die **108,208** having electrical contact pads **110** for external connection and a height; and a predominantly metal substrate **300,102** having a recessed area **214** with a depth at least equal to the height of the die; wherein the substrate comprises a dielectric layer on the recessed side insulating patterned circuitry **117** extending into the recessed area, the die mounted in the recessed area with electrical connections provided between the electrical contact pads of the die and the pattern circuitry in the recessed area.

Claims 32, 36-38 and 46-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Baik et al. (U.S. Patent # 6,841,863 B2).

32. For example, in claim 32 and similar claim 46, Baik et al. (figures 1 to 10) specifically figure 4 show a semiconductor package, comprising: a die **102** having electrical contact pads **106** for external connection and a height; and a predominantly

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metal substrate **122** having a recessed area with a depth at least equal to the height of the die; wherein the substrate comprises a dielectric layer **150** on the recessed side insulating patterned circuitry **140** extending into the recessed area, the die mounted in the recessed area with electrical connections provided between the electrical contact pads of the die and the pattern circuitry in the recessed area.

## Response

Applicant's arguments filed 9/6/06 have been fully considered, but are moot in view of the new grounds of rejections detailed above.

The listed references are cited as of interest to this application, but not applied at this time.

Field of Search	Date
U.S. Class and subclass: 257/668,734,737,738,691,690,602,693,697,698,666,783,707,712,713,717,720,706,703,702,699,786,784,676,675,e25.013,e23.172,e23.065,e23.125,e23.177,e23.179,e23.069,e23.064,e23.07,e23.19,e25.013	10/15/05 6/23/06 10/29/06
Other Documentation: foreign patents and literature in 257/668,734,737,738,691,690,602,693,697,698,666,783,707,712,713,717,720,706,703,702,699,676,675,e25.013,e23.172,e23.065,e23.125,e23.177,e23.179,e23.069,e23.064,e23.07,e23.19,e25.013	10/15/05 6/23/06 10/29/06
Electronic data base(s): U.S. Patents EAST	10/15/05 6/23/06 10/29/06

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander O. Williams whose telephone number is (571) 272 1924. The examiner can normally be reached on M-F 6:30AM-7:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272 1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexander O Williams  
Primary Examiner  
Art Unit 2826

AOW  
10/29/06